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Romania knocks at the EU door. How to better its monetary and exchange rate mechanisms? *

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ABSTRACT

Romania's overall economic performance during the first 10 years of transition can be termed so far as disappointing: the country has not been able to deliver steady growth, low unemployment and low inflation. Many determining factors of this meagre outcome are microeconomic and institutional. In the text at hand we have taken these important constraints as premises to focus on the effectiveness of monetary and exchange rate mechanisms and policies. In the first part, we introduced some theoretical considerations. In the second part, we analysed more in depth the facts pertaining to Romanian economy. It is argued that only a change of the monetary mechanism and policy backed by a suitable exchange rate mechanism and other mutually supporting measures, could subdue inflation and inflationary expectations, thus contributing to the emergence of a growth-friendly environment.

Keywords: Monetary policy, Exchange rate mechanism, Romania, Transition

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1. Introduction

In Helsinki, in December 1999, Southeast European countries like Bulgaria and Romania were invited to start admission negotiations with the European Union. Although an official accession date has not yet been decided, a realistic forecast would set it around the year 2010. By this date they will face the monetary integration challenge, a process that may last a few more years. In the current decade, these countries should undertake important structural transformations in order to set their economies in line with Western ones. Fast integration requires the fulfilment of a set of social, political and economic criteria. Essential economic criteria are a low inflation rate, low public debt and deficits, low interest rates and a stable currency against the Euro. Less explicit, but also very important, these countries should reduce gaps vis-à-vis the Western partners, in order to be able to comply with obligations related to the participation to the Western club. A relatively high GDP per head is by all means the best ticket to entry.

Unfortunately, given a limited number of instruments and resources, these goals may sometimes be conflicting and policy choices should take into account the trade-off between them. Also, during the decade, the relative importance of the various objectives may change and would require an adjustment of policies and mechanisms.

In most developed countries, the management of monetary parameters and the exchange rate is the responsibility of central banks. Sometimes the central bank determines on its own the policy objectives to be achieved, some other times the government has a say in this process. Following the Fed example, in the last twenty years, all developed countries have endowed their central bankers with powerful tools

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that allow them to control the key variables in the money market. This was the full truth about setting "independent" central banks: not only to give central banks political independence, but also to cut any direct link between the state deficits and the monetary base. The significant progress of the Western world in the fight against inflation can be attributed to a large extent to the implementation of more efficient mechanisms for controlling the money supply.

Macroeconomic performances depend also on the design and goals of the exchange rate mechanism. One may order exchange rate mechanisms in keeping with the cost of changing the parity from the most to the least rigid: dollarisation or euroisation → currency board regimes → credible peg (or fixed rate) → non-credible peg → managed float → fully flexible rates. The 1997 Asian crisis has much eroded the confidence of policymakers in the developing world in the virtues of fixed rates and other crawling pegs under the current international financial arrangements and rules. *Inter alia*, it has put forward the increased scope for speculative lending and speculative currency attacks in a world of increased capital mobility (Krugman, 2000). Not only modern communication technology allows very rapid international transfers of funds but also, in the context of a liberalisation *Zeitgeist* in the late 1980s and the early 1990s, both developed and many developing countries have removed all/most of capital controls and restrictions in the last twenty years.

Whereas flexible managed rates is still the rule in practice, there is a rising advocacy of super-fixed exchange rate mechanisms – against the background of rising discontent with the working of the international financial system. Some economists favour currency boards (Rivera-Batiz and Sy, 2000; Gulde, Kähkönen and Keller, 2000) and even dollarisation (Berg and Borensztein, 2000; LeBaron and McCulloch 2000). Gulde, Kähkönen and Keller (2000) argue that Eastern European countries

should adopt currency boards not only during the intermediate period before joining the EU, but should also maintain this mechanism during the two-year test period which precedes the adoption of the single currency.[1] Under such arrangement, in a world of increased capital mobility, the country actually transfers the control over monetary policy into the hands of the central bank issuing the reference currency (that is, the Fed or the ECB). That would allow the small country to "import" the credibility of this institution.

The basic rationale against fixed exchange rate regimes may be traced back to the pioneering work of Milton Friedman (1953). According to his view, when a country is hit by an adverse and specific output shock, the real exchange rate should depreciate to restore competitiveness. While this may be achieved by a reduction in the domestic price level, the price adjustment process may be too costly or too slow; an adjustment of the nominal rate would achieve the same result less harmfully. Many transition economists followed this argument and opposed the implementation of super-fixed exchange rate regimes on ground that such mechanisms would not be consistent with a smooth structural real appreciation of the currency associated to an assumed productivity catch-up (Halpern and Wyplosz, 1997).

One should notice that fully flexible rates are more a theoretical construct than a real life experience. Indeed, central banks firmly supporting this principle, like the Fed or the National Bank of Japan, and more recently the ECB, are far from letting their currency being determined by market forces only. As put forward by Calvo and Reinhart (2000), they follow some kind of "managed float" regime, given that the monetary policy is not indifferent to changes in the international value of the domestic

[1] It is however not obvious which would be then the role of this test period, if the exchange rate reveals no information about economic performances and policies.

currency. This leads to a relatively low variance in the exchange rate and a higher variation in reserves and short-term rates. The two authors argue that sometimes the difference between "managed float" and "not-credible peg" is quite negligible. Under a not-credible peg, the government announces an exchange rate target, but would discretionary change it, quite frequently.

This paper aims to introduce some basic elements of an analysis of monetary and exchange rate policies, from a perspective related to the economic reality of Southeast European transition economies;[2] it analyses the role played by monetary policy in Romania so far, the factors that contributed to poor inflation performances and suggests some possible improvements in the monetary and exchange rate regimes. The paper has a clear macroeconomic and financial bias. Of course, many microeconomic, institutional, political and cultural factors may have been brought into the picture, as there are many relevant variables during such a complex phenomenon as transition. But focusing on one dimension at one time would limit the risk of hiding or omitting the essential mechanisms and relationships. In particular, it should be noticed that the paper does not explicitly address the question of slow growth in Romania. If we implicitly assume that moderate inflation and a stable currency could favour growth, other aspects, as the relationship between investment and savings, the improvement of Romanian firm competitiveness in the world market, the resource reallocation toward dynamic firms and sectors are not dealt with. They may provide interesting paths of future research.

The next section briefly recalls some basic difficulties that policy reform faced at the beginning of the transition process in the most centralised economies. Section 3

[2] Frankel (1999) explains why the exchange rate mechanism should be fitted to the country specific context.

comments on the relationship between monetary and fiscal discipline under various exchange rate mechanisms. Section 4 analyses the risks of speculative attacks that may occur under fixed exchange rates regime. Section 5 introduces the case of Romania. The conclusion and some policy implications are presented in Section 6.

2. Inflation and monetary policy in a centralised transition economy

At the beginning of the transition process, many international experts and organisations viewed the basic transition economy as a standard economy hit by an large adverse supply shock, which have to solve simultaneously a problem of monetary overhang and of declining output. Ten years later, everyone seems to agree that the initial approach to reform in these countries built on over-simplified representations of the reality. Some older and recent criticism has put forward the intrinsic ineffectiveness of orthodox reforms in highly disorganised economies and advocate the need to enforce "institutions" (the state and the market included) as a necessary precondition to successful reform (Blanchard, 1997; Stiglitz, 1999; Rodrick, 1999).

In this section, we would like to briefly comment on the factors that might have justified a doze of chronic inflation during the first years of transition (different from the corrective inflation that accompanied price liberalisation in a context of monetary overhang). We describe a hypothetical economy, whose fundamental features are emphasised in an extreme way. The basic framework refers to a country that did not benefit from early programs of partial and gradual reform in the late 1980s. The purpose of this section is to tell the inflation story in a straightforward way, then to investigate whether this story is still true.

Formerly socialist economies were highly centralised: in general, a given commodity or service was produced by a few huge state-owned firms; some

commodities were produced by only one firm and sometimes, a given firm had only one buyer for its products. (Such organisation made central plan easier to be set up). Imagine then the chain of production of a final consumption good. If one of the firms got out of the market, the whole chain would collapse. Of course, this is quite an extreme characterisation, but it is not a very unrealistic picture for highly centralised countries like Romania or Russia, at least at the beginning of the transition process. Intuitively, one may see then why governments were keen on letting burst some of the firms.

To produce, firms need energy and other inputs. While the other inputs are produced at home, energy is bought in the world market (of course, some other essential inputs would also be bought overseas). Thus, any devaluation would have deteriorated the balance sheet of the representative firm. If the capital market is not functioning well, the representative firm will not be able to borrow against future income and would buy less of the other inputs. Consequently, the devaluation would imply a reduced output and even the exit of the firm of the market. In order to avoid the collapse of production chains, governments in transition economies have initially subsidised the firms in trouble (gave them money or blocked energy prices). The increased public deficit was in general financed by the central bank. Often with a lag, the consecutive increase in money supply led to an increase in prices, which put additional pressure on the exchange rate. Even if the central bank striven to keep the parity constant, the loss of competitiveness entailed reserve depletion and, in the end, the currency has to be devalued. A new inflation cycle is at work.

Today, the economic landscape has changed much. Most governments have banned direct subsidies to firms. However, in the least advanced countries along the reform path like Russia or Romania, there is an increasing problem of tax arrears,

where the government tolerates the accumulation of unpaid taxes of the firms that seem to face financial difficulties. The resulting deficit is in general monetized, either directly or through the commercial banks that would refinance themselves against treasury bonds as collateral.[3]

One may argue that the rationale for firm support has not changed: there would be still a need to keep some firms in the production chains under perfusion, given a risk of overall collapse. However, the old argument has lost much of its force today. Firstly, increased international openness allowed foreign suppliers to become a sensible alternative to domestic firms. More important, transition economies have undertaken an important process of de-monopolisation: many private firms have entered the market and are today serious competitors for former national champions. Capital markets have also widened and deepened, thus providing firms that face temporary payment difficulties the needed relief. In this context, an inefficient supplier may be replaced at a relatively low social cost (i.e. there would be no undesired spillover).

While at the origin of the inflationist cycle stood the will of the government to protect the weak firms, today the initiative seems to sit with the firms themselves, which, in a quest for tax exemptions, try to hide the true costs and claim the state support. This non-cooperative strategy is dominant, insofar as the firm which does not play defection in the arrears game will be penalised (Daianu and Vranceanu, 2000). One could notice that this vicious circle that perpetuates inflation, tax arrears and a

[3] In Romania, by mid-2000 tax and inter-firm arrears reached almost 50% of GDP. When firms use actual liquidity for paying wages and some taxes, inter-firm arrears emerge as temporary quasi-inside money, which also fuels inflationary expectations (Daianu, 1994). See also the study of Pinto et al. (2000) on tax arrears in Russia.

weak currency could also be related to lack of progress with restructuring and slow resource reallocation, factors that hamper long-term growth.

As an upshot, consistent and well designed monetary and exchange rate policies and mechanisms, backed by additional structural and institutional reforms, could help today terminating inflation and inflation expectation without putting additional strain on the productive sector.

3. Monetary discipline, fiscal discipline and the exchange rate mechanism

As mentioned in the introduction Section, in the last few years, notably after the 1997-1998 Asian and Russian financial crisis, an increasing number of economists argued that the recourse to super-fixed exchange rate mechanisms, like currency boards and, more extreme, dollarization (euroization) would allow to countries victims of high inflation and excessive currency instability to import the discipline of the reference currency.

In the past, currency boards were mainly to be found in the UK colonies. Today, only a few countries use such schemes (to mention only Argentina, Hong Kong, Bulgaria and Estonia), in general as a solution of last resort to excessive price and financial instability. Under a currency board, a fixed conversion rate between the local currency and a foreign one is decided and the domestic monetary base (cash and bank deposits) is 100% (and more) backed by low risk assets denominated in the foreign currency. The currency board has no right to issue central bank money against any domestic assets.[4]

[4] Under dollarization, the country loses the seigniorage income, but the credibility of the fixed parity is much increased, given the very high costs of reversing the process.

In general, currency boards have contributed to bring down high inflation quite fast, but recorded less impressive results in terms of stabilising output in the aftermath of major adverse shocks (Chang and Velasco, 2000). The current difficulties of Argentina to recover from the 1998 crisis would support this idea (The Economist, 12/08/2000). By July 2000, the annualised inflation rate in Argentina was –0.9%, and the growth rate was as low as 0.9%. Bulgaria adopted an idiosyncratic[5] currency board in July 1997 as the main building block of a resolute stabilisation programme. Inflation fell dramatically, from 580% in 1997 to less than 1% in 1998. Although the growth rate was of some 3% per year during the period 1998-2000, the unemployment rate has kept on increasing, to reach 18% in 2000.[6] Another major risk for Bulgaria is related to the large and increasing foreign debt.

Gulde, Kähkönen and Keller (2000) point that by ruling out the possibility to finance the deficit by money creation (that is, no central money can be issued against treasury bonds), a currency board would set a strong constraint on spendthrift governments and would bring about more fiscal discipline.[7] This argument applies as such for closed economies, but less so in a global environment, according to the famous Mundell-Fleming paradigm.

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[5] The Bulgarian monetary institution lacks an important feature of basic currency boards. The government account is held at the Currency Board. In case of a deficit, this would lead automatically to an increase in the monetary base. See Miller (1999).

[6] By not underestimating the size of unemployment, this should not necessarily be seen as a signal of poor performance: the impossibility of the central bank to lend to the government has limited the spending possibilities of the government and, thus, put an end to state subsidies to under-performing firms. In turn, this may have pushed the much needed restructuring.

[7] It should be recognised, however, that a currency board does not automatically put a lid on quasi-fiscal deficits, particularly in those economies where financial discipline is weak and state enterprises are still ubiquitous. Such a state of affairs may strain the banking system exceedingly and diminish the credibility of this monetary regime.

Let us consider two identical countries, with the same initial fiscal stance and the same risk of default on the sovereign debt. One country has a currency board, the other a central bank under a fixed exchange rate mechanism. We assume that under a currency board the devaluation risk is zero (but the rationale would not change if we assume that it is only lower than under fixed rates). Additional public borrowing involves small increases in interest rates above the world rates, which would lead to inflows of capital. This additional foreign capital not only allows financing the deficit but also would increase the currency reserves of the board, the monetary base and the money supply. The automatic response of the currency board consists in accommodating any increase in public spending. *Ceteris paribus* the public deficit and the current account deficit increase in pair.

Under a fixed exchange rate regime, and under imperfect information of private agents on policymaker's priorities, a government truly committed to the zero devaluation policy is in a worse situation than with a currency board. While this government still cannot have an autonomous monetary policy, the risk of devaluation is positive and adds as a premium on interest rates. This discourages investment, output and employment and further increases the devaluation risk. For a given fiscal deficit, output is lower under fixed exchange rates than under the currency board regime.[8]

To sum up, under a currency board, monetary policy cannot be used to foster demand and employment, but fiscal policy is a powerful expansionary instrument. High unemployment countries, like those from Southeast Europe may thus be tempted

[8] In a dynamic perspective, maintaining the zero devaluation policy for a long period may help reducing the risk, as people update their expectations downwards (Besancenot, Vranceanu and Warin,

to recourse to the fiscal stimulus in order to reduce high unemployment, but this endeavour may prove detrimental over the longer term if it undermines overall policy credibility (due to too high public deficits and related high interest rates). In addition, by the moment of the accession to the EU, successive periods of high deficits may rise a problem of debt and debt reduction, hard to be tackled in one stroke. There is another risk that would occur if governments rely too much on fiscal polices; as suggested above, above a certain level of indebtedness, the default risk can become significant and further penalise investment and growth. To counter these risks, additional limits on fiscal deficits, of the kind laid down in the Maastricht Treaty, should be enforced. But these would leave governments empty hands in face of asymmetric shocks and associated increases in unemployment.

With fully flexible rates, the government has no incentive to recourse to the fiscal stimulus, given that it can only crowd-out exports in an equivalent amount. So it can freely follow a low deficit fiscal strategy and stimulate activity by increasing the money supply. This will put downward pressure on interest rates, which stimulates investment and tends to depreciate the currency, which in turn fosters exports, at least in the short run. As a partially offsetting effect, this depreciation is taken into account by foreign investors who require a depreciation premium. By the moment of the accession, the recourse to devaluation will no more be allowed, but hopefully, the economy would have grown enough.

Of course, the main risk arising from an incautious recourse to monetary expansion is to fuel inflation. The risks are higher in those transition economies where soft-budget constraints are still the rule rather than the exception. In such countries,

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2000). In turn, this improves the employment performance of the economy. But a strict rule of no-devaluation like the currency board still brings a better result.

injections of liquidity would rapidly transform in price increases and would have little impact on portfolio choices. The weak response of interest rates would then explain a modest output increase. Thus, structural reforms and the enforcement of firm hard-budget constraints are a basic precondition for monetary policy effectiveness.

So far, we have shared with the supporters of currency boards the implicit assumption that such an institution would eliminate the risk of currency attacks. In the next section we take a closer look to this issue.

4. Speculative attacks and currency boards

4.1 First generation models: arguments pro *currency boards*

A well-known explanation to currency crises under a fixed exchange rate regime was worked out by Salant and Henderson (1978), Krugman (1979) and Flood and Garber (1984). The price level in the small country is governed by the law of one price, where the price of the foreign country is given.[9] The uncovered interest parity also holds. These "first-generation models" (Flood and Marion, 1999) postulate an *exogenous* increase in the central bank domestic credit. The subsequent increase in money supply puts downward pressure on interest rates and entails a capital flight. In order to defend the parity, the central bank must sell reserves such as the total amount of high-powered money is kept constant. At some moment in time, its reserves will be totally depleted and the fixed rate regime must be abandoned. Holders of domestic currency realise that the policy is unsustainable and force the exit from the fixed exchange rate arrangement before the moment when the reserves are completely

[9] Some authors part with the law of one price and write an equilibrium condition in the money market that establishes a positive relationship between the money stock and the domestic price level.

depleted.[10]

In the case of a currency board, the monetary base has no other counterpart than the reference foreign currency. Thus, such a monetary institution cannot create money by increasing credit to banks or to the government. In the line of the former analysis, many experts suggest that this institutional arrangement could completely rule out the risk of a currency attack. This certitude should be twice qualified.

4.2 Currency boards, the Phillips curve and output cycles

It may be argued that in the short and medium-run, prices in transitional economies are driven by the wage costs given the stance of the labour market. Indeed, in these economies, the productive sector is dominated by large firms, which often hold a monopolistic position. Such firms may form prices simply by adding a profit margin to unit costs. Then, for constant productivity, there is a straight relationship between wage and price inflation. At some moment in time, for a given level of unemployment, prices and wages would chase each other upward. Inflation is therefore positive if unemployment falls below its structural value.[11] This alternative logic may explain a loss in competitiveness that does not build on the assumption of exogenous increase in central bank domestic credit.

Starting from an initial situation with positive inflation, at some moment in time, domestic prices will exceed the world prices and net exports will become negative. As a consequence, aggregate demand diminishes and interest rates tend to

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[10] The optimal timing requires no discrete jump in the price level (i.e. an infinite inflation rate). Therefore, the currency attack should occur when the actual fixed rate and the implicit exchange rate that would clear the market under a flexible scheme (the "shadow" exchange rate) are equal (Flood and Garber, 1984).

[11] This is quite a traditional explanation, which can be traced back to the paper by Samuelson and Solow (1960). See for a modern reference Layard, Nickell and Jackman (1991).

fall below the world rates. The reserves of the currency board begin to fall; simultaneously, the money stock is reduced. The equilibrium output declines. At some moment in time the decline in output should be large enough (and unemployment high enough) such that prices start to decline; the reverse process is at work.[12]

A simple model helps describing the mechanism more precisely. Let the price equation be a standard Phillips-curve:

$$\frac{dp(t)/dt}{p(t)} = \gamma\left[y(t) - \bar{y}\right] \tag{1}$$

where $\bar{y}$ is the structural output, i.e. the output level associated to the structural unemployment rate (alternatively, one may carry out this reasoning in output growth rates instead of levels). Structural unemployment is related to various wage rigidities and frictions. Notice that in transition economies, this structural rate of unemployment may be quite high.

Let us denote by *R* the reserves of foreign exchange of the currency board, by *p** the price level in the EU and by $\bar{e}$ the legal exchange rate. Then, reserves will follow the dynamic:

$$\frac{dR(t)/dt}{R(t)} = \alpha\left[\bar{e}p^* - p(t)\right] \tag{2}$$

The equilibrium output will respond to the contraction in exports and the money stock according to:

$$\frac{dy(t)/dt}{y(t)} = \theta\frac{dR(t)/dt}{R(t)} \tag{3}$$

Thus equation (2) can be written as:

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[12] The contemporary dismal performance of Argentina (low growth and deflation) may be interpreted in the light of this simple model.

$$\frac{dy(t)/dt}{y(t)} = \alpha\theta\left[\bar{e}p^* - p(t)\right] \tag{4}$$

The price level and output motion laws are solutions to the system of differential equations (1) and (4). One has noticed the similarity between this model and the famous Predator-prey model. There is a non-trivial stationary point *E* of coordinates ($\hat{y} = \bar{y}$, $\hat{p} = \bar{e}p^*$). As can be easily observed from the phase diagram (Figure 1), the system has a cyclical pattern around the equilibrium point. That is, starting from any other initial point except the stationary point, price and output levels describe cycles around their respective stationary values.

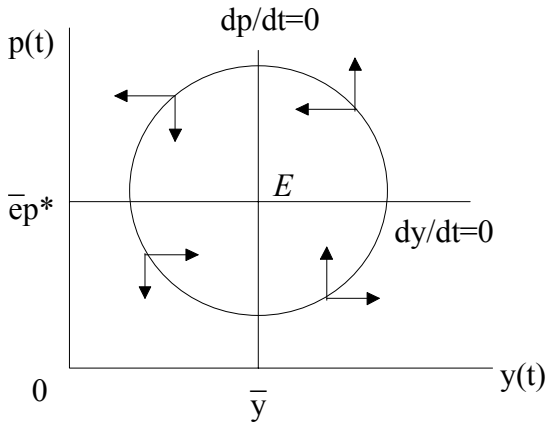

Figure 1: the Phase diagram

Let us imagine that policymakers have determined the initial exchange rate $\bar{e}$ so that the system is stable, that is, it settles at point *E*. Unfortunately, any exogenous shock to output (favourable or not) pushes the system on a cyclical trajectory, and brings about costly fluctuations. A very powerful shock may even push the system on a peripheral trajectory; in this case, there may be a significant risk that such a trajectory is not consistent with the condition *R*>0 and the currency board cannot survive. Of course, the dynamic put forward in this simple model depends on the

specific form used to describe price and output formation. Other expressions may lead to more complex dynamics, where main variables follow explosive or chaotic paths.

Finally, even under a currency board there is a money multiplier[13] and thus a risk of generalised run on banks. Furthermore, this risk is somehow higher than with a normal central bank, given that the currency board has little possibility to act as a lender of last resort (Berg and Borensztein, 2000; Gulde, Kähkönen and Keller, 2000). As argued by Chang and Velasco (2000), currency boards make balance-of-payment crises less likely only at the cost of making bank crises more likely. This should be seriously considered by policymakers in those countries that have fragile banking systems – as is the case of transition economies.

4.3 Self-fulfilling prophecies and speculative attacks

As the French experience of the early nineties has shown, even strong currencies may be subject to speculative attacks. Such logic would also justify attacks on currencies backed by currency boards. Standard explanations (Obstfeld 1984, 1992) develop on the logic of self-fulfilling prophecies (multiple equilibria). Basically, the decision to attack a currency is motivated by a high expected gain, that will materialise if the attack is actually undertaken. The scope for large expected gains results from the strong asymmetry between ex-post gains and losses of the

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[13] Let us assume that commercial banks hold a proportion ϕ of their deposits in the form of notes (themselves covered by dollars within the currency board): $NB=\phi D$. (For simplicity, we neglect here the banks deposits with the board). The public would also hold banknotes as a proportion b of their deposits, $NP=bD$. The money stock is $M=N+D=NB+NP+D=(1+\phi+b)D$. Then, the ratio between the money stock and notes is $m=M/N=(1+\phi+b)/(\phi+b)$ higher than 1. Thus, there is a strict relationship between the stock of foreign currency and the money stock. The smaller ϕ and b, the higher the multiplier is.

speculators. Consider a speculator who borrows 1mld lei for one month and buys euros, while simultaneously he sells euros and buys lei in the one-month forward market. If at the end of that month the parity is unchanged, he will bear the transaction costs (and the interest rate), let say 1% of the principal. But if at the end of the month the leu has depreciated by 6%, the speculator will have made a 5% gain, an equivalent of a 60% yearly interest rate. Even if the probability of the devaluation is of 0.5, the domestic interest rate should increase by 30% in order to counter the attack. If the business sector cannot resist to this shock, devaluation is the only choice.

Of course, the action of one isolated speculator could not destabilise the currency. But what is optimal for one speculator should be optimal for many others, depending on their specific characteristics like the information set, wealth, and so on. Chances that a run on the currency occurs are more significant if the country is globally perceived to be in a position where it cannot sustain the parity. For instance, if unemployment is high, the country might not be able to bear additional austerity in order to rebalance the current account. Unfortunately, countries in Southeast Europe already reveal huge unemployment;[14] and the accompanying social and economic pains will very likely be compounded when resolute steps toward the restructuring of their productive sector will be taken.

Forecasts of inflation in transition economies exceeding inflation in the EU often build on the Balassa-Samuelson paradigm (Halpern and Wyplosz, 1997). In this analytical framework, the small country economy is made up of a tradable and a non-tradable sector, with labour as the only input. Prices in the EU, the "large country",

[14] Unemployment rates in Southeast Europe are extremely high even by transition economies standards. Even if the size of the underground sector is considered unemployment rates of between 30-40% (as in Macedonia, Serbia, Bosnia-Herzegovina, Kosovo, etc) are staggering.

are given. Under the law of one price, the prices of tradable goods in the small country are equal to prices in the union, times the predetermined nominal exchange rate. Let us assume that this exchange rate was set initially such as the current account is balanced. Wages in the tradable sector can only increase in the small country when labour productivity increases in this sector. Then, with labour mobility between sectors, wages and prices in the non-tradable sector also increase, for constant productivity in that sector. The price level gradually increases with the catch-up in productivity. Of course, this kind of "adjustment" inflation would not affect the current account equilibrium. However, if private agents interpret the change in the equilibrium exchange rate as depending on relative changes in inflation rates in the consumer price index, they may feel that the currency is overvalued and the probability of speculative attacks may increase.

Therefore, if a country opt for a fixed exchange rate regime, either a standard one or a currency board, it may consider the case for capital controls that dissuade extensive short-term capital flows and increase the opportunity costs of speculative attacks (Krugman, 2000). While a Tobin tax may not be effective enough in dissuading short-term speculation (Kenen, 1995), the mechanism proposed by Eichengreen, Tobin and Wyplosz (1995) -- where foreigners who borrow domestic currency must constitute a one year deposit -- could be effective.

5. Romania: macroeconomic performance and the exchange rate mechanism

5.1. A basic introduction to the Romanian economic context

From a macroeconomic perspective, Romania must solve two major problems before it can hope to be on the "short-list" of EU applicants. Firstly, it should bring

inflation down radically, close to a one digit level. With a yearly inflation rate of 40.6% in 1998, of 55% in 1999, and very likely around 40% in 2000, Romania is far from matching the EU target. One may point at the downward trend, such as represented in Figure 2 (the dotted line represents the Hodrick-Prescott trend).

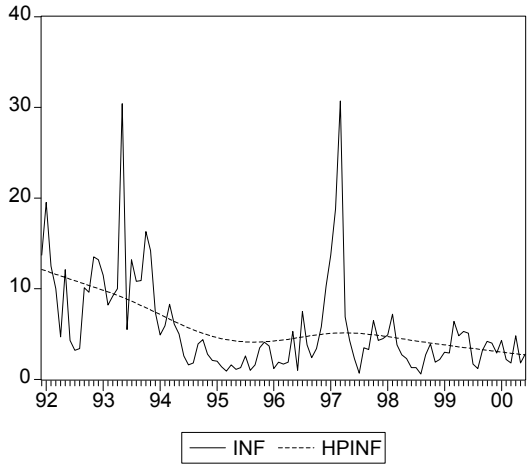

Figure 2. Monthly inflation based on CPI

However, this is clearly a very poor outcome, given that a credible anti-inflation policy could and should bring the inflation rate down much faster.

Another major problem for Romanian economy is its meagre growth performances. In Figure 3 one can see that Romania has under-performed Central and Eastern Europe (Baltic states excepted) in a significant way:

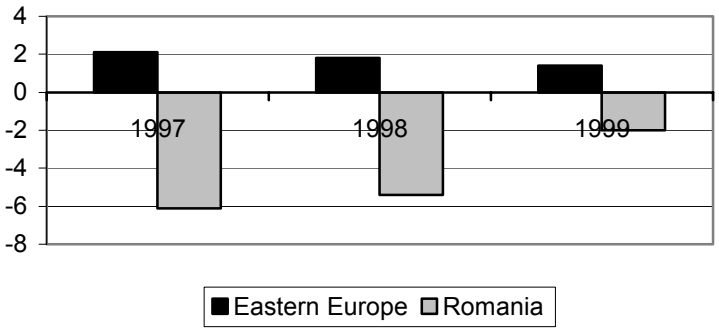

Figure 3. Annual growth rates in Romania and the Eastern Europe. Source: UN/ECE, 2000.

The unemployment rate also edged up, to reach 10.8% in July 2000, although this figure cannot be readily interpreted as bad, if it signals needed firm restructuring.

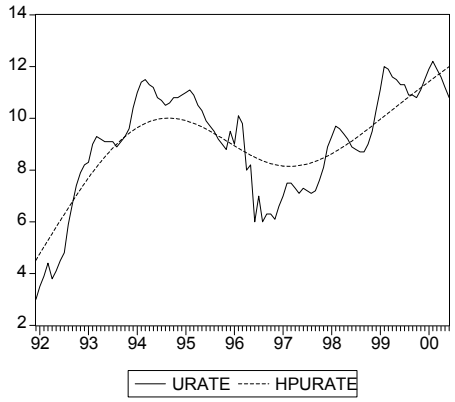

Figure 4. Unemployment rate, actual and trend. Source: NBR

Clearly Romania has had major difficulties in achieving successful macro-stabilisation. All through the nineties, when all other Central and Eastern European countries made significant progress in this respect, the situation in Romania stalled. How to explain this outcome? It is well known that there are fundamental relationships between the microeconomic structure of the economy, the institutions at work and the macroeconomic performances, but such a theory of comprehensive reform is beyond the scope of this short paper.[15] We only comment on the role that the monetary and exchange rate mechanisms could have in improving the macroeconomic performance.

5.2. The financial system and the monetary policy set-up in nuce

A two-tier banking sector was implemented at the end of 1990. Since 1992, the Romanian currency, the *Leu* was allowed to "float" in a newly created foreign exchange market but, due to reminiscent controls, *rationing* persisted, however, in

[15] In a complementary paper, Daianu and Vranceanu (2000) analyse these issues more in depth.

that market. While the leu is the only currency allowed for transactions in the domestic market, Romanian private agents (households and firms) may hold foreign currency denominated deposits with commercial banks.

The National Bank of Romania (NBR) is in charge with the monetary and foreign exchange policy. Its statute defines the main objective of the NBR as "to ensure stability of the domestic currency with a view to maintaining price stability" (Law 101/1998; Law 156/1999). Every year, the government establishes an inflation target, in general agreed with the IMF. Unfortunately, year after year, the target has been largely missed.

In late 1991, faced with a tough winter and the lack of foreign reserves, the Government and the NBR decided to have the foreign currency held by enterprises on bank accounts converted into lei, a move that deeply affected the confidence of private agents in the banking sector. In order to oppose the ensuing capital flight, a full-retention regime of foreign exchange was introduced in mid-1992. Until the end of 1996, administrative controls over the official exchange rate were maintained, which led to the existence of three main exchange rates: an official rate for firms, which was fixed by the NBR; an *implicit* free rate set by firms, which used linked import and export transactions; and another free rate, for individuals. Most of this period, the official rate vas overvalued; cheap energy was an indirect way to subsidise energy intensive industries, but also contributed to a deterioration of the current account. Only in January 1997 a full-fledged foreign exchange rate market was set-up and the exchange rates were unified (UN/ECE, 1997). This unification reduced the government's room for granting implicit subsidies via the official exchange rate.[16] By 1999 there were practically no restrictions on capital inflows; yet, outflows by

residents require prior approval by NBR. In mid-1999 the country faced some difficulties with the reimbursement of the foreign debt. The possibility of partial default was mentioned, but the crisis was averted and today the risk of default is quite low (in August 2000, Standard & Poor improved Romania's rating prospects from negative to stable).

The Romanian economy is undergoing a recovery now (September 2000) and the substantial cleaning up of the banking system is expected to help put a break on inflationary expectations. Lately in the year 2000, the National Bank of Romania chased three objectives: an inflation target, a current account deficit target and keeping interest rates down so that the debt service of the state budget be lower. This explains policy slippages as well as continuing recourse to quasi-fiscal operations.

5.3. The money multiplier, the monetary base and the money stock

In general, the money stock is defined in this text as M2. This aggregate includes cash in circulation, checkable (sight) deposits, saving deposits and other short-term contractual savings, and foreign currency denominated deposits. There are two distinctive features of the Romanian composition of M2 with respect to EU countries. The first is the existence of foreign currency denominated deposits: private agents may and do hold dollar (or other important currency) accounts. Second, the relative size of checkable deposits as compared to cash is not very large. This should be explained by the notorious lack of payment instruments (cheques, payment cards), the lack of experience and trust of private agents with such instruments and the under-development of the banking sector in general.

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[16] See Daianu (2000) for a detailed analysis of the 1997 stabilisation programme.

The figure below depicts the large increase in the money stock, which was roughly multiplied by a factor of seven in five years.[17] Is this change due to extensive development of bank credit or to an increase in the monetary base[18]? The base multiplier is plotted on the same graph (the scale is on the left-hand axis): there is a neat downward trend of the multiplier after 1997. In this case, the increase in the money stock would express increases in the monetary base. Thus, efforts toward controlling the monetary stock should essentially target the monetary base.

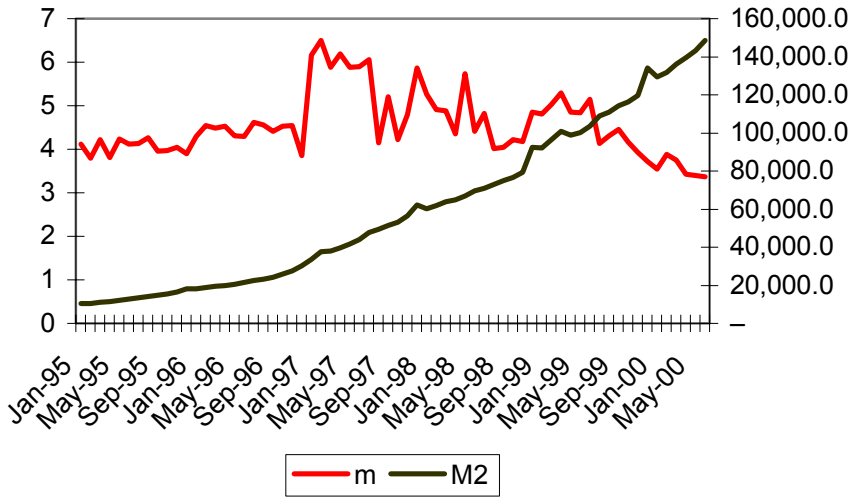

Figure 5. Money stock and the base multiplier. Source: NBR.

However, a deeper analysis of the multiplier could be useful. Let us consider that commercial banks hold as reserves a proportion $r<1$ of their deposits in lei and a proportion $\rho<1$ of their dollar denominated deposits. Banking regulation determines a minimum reserve requirement; in addition, commercial banks would hold excess

[17] It is worthy to notice that monetary base as a proportion of GDP is about 4.5% (as compared to some 7.5% in the US), which indicates a relatively low degree of monetisation of the economy. Moreover, the set of available financial assets is quite limited, and justifies additional instability given the relative scarcity of alternative financial investments.

[18] The monetary base, or high-powered money, or central bank money is made up of currency notes and coins in circulation and commercial bank deposits with the central bank (or reserves).

reserves if the volatility of the flow of deposits were high. Private agents would hold cash in proportion *b* to their lei deposits, in keeping with their payment habits. They would also hold *d* lei in dollar denominated deposits for every leu deposit (we assume for simplicity that people would not hold dollars cash, given that they cannot use it as such for transaction purposes and that dollars notes carry no interest[19]).

Let us denote by *D* the lei deposits (we do not made any distinction between the various types of deposits). The money stock is *M* = Cash +Lei deposits + $deposits = $bD + D + dD = D(1 + b + d)$. The money base is: *B* = Cash + Reserves = $bD + rD + \rho dD = D(r + b + \rho d)$. The money multiplier is thus:

$$m = M/B = \frac{1 + b + d}{r + b + \rho d} > 1.$$

It can be seen that the multiplier is a decreasing function in *b*, *r* and ρ. That means that, *ceteris paribus*, increases in the reserve ratios would reduce the money stock. An increase in the public propensity to hold cash would also reduce the money stock. The impact of increased propensity to hold dollar denominated deposits is more ambiguous. The sign of the derivative:

$$\frac{\partial m}{\partial d} = \frac{b(1-\rho) + (r-\rho)}{(r + b + \rho d)^2}$$

is clearly positive if $r \geq \rho$, that is if the reserve ratio that applies to deposits in lei is larger than the reserve ratio that applies to dollar (and euro) deposits. Since August 1998 this condition is fulfilled (in June 2000, *r*=30% and ρ=20%).

This configuration clearly brings about additional volatility. If, for some reason, people lose confidence in the domestic currency, they would shift to dollar

[19] In practice, firms and individuals would use hard currency in cash for certain transactions, even if this is illegal.

denominated deposits (*d* increases). This would rise the multiplier and the money supply, and would entail a decline in interest on lei deposits, which would ex-post validate the adverse "confidence" shock. On the contrary, if $\rho>(r+b)/(1+b)>r$), then the increase in the propensity to hold dollar deposits may have a stabilising effect in the event of credibility shocks.

The figure below depicts the time patterns of the ratios *b* and *d*.

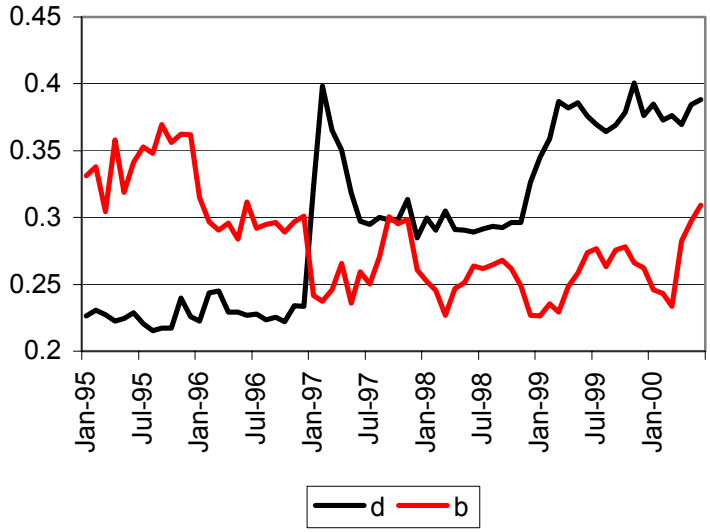

Figure 6. Propensity to hold cash and dollar deposits. Primary data: NBR.

It can be seen that the propensity to hold lei is rather stable after 1997, fluctuating around 0.25. The propensity to hold dollars has increased markedly in 1997, at a period when the multiplier itself increased sharply. After a period of decline, it increased again at the beginning of 1999.

So, given that the money multiplier has a downward trend, the excessive increase in the money stock should be analysed in relation with increases in the monetary base. We know that the monetary base is subject to changes in the assets of the Central Bank: foreign assets and domestic credit to the government and the banking sector. The Bank may intervene, at its initiative, (a) in the foreign exchange

market, by buying or selling foreign currencies or (b) in the open market, in general by trading treasury bonds. But the bank may also lend money to the banking sector. While in the developed countries, this latter method is used to manage the monetary base, in Romania it was so far primarily associated to various quasi-fiscal operations aiming at supporting various sectors during hard times.

The figure below shows the three main posts of the asset side of the balance sheet of the NBR for the period 1995-1999: net foreign assets (assets – short-term liabilities), credits to the government and credits to the banking sector. The goal of recovering its net foreign assets after the 1999 crisis is quite normal for a country holding a (large) foreign debt.

Discretionary central bank credit has been used until 1997 to provide cheap credit to various sectors (energy, agriculture, etc); it was, since then, essentially, motivated by the attempt to rescue banks that were in deep financial trouble **(**Dragulin and Radulescu, 2000). In the eyes of Romanian policymakers, this measure would have limited the risk of a generalised failure of the fragile banking system. However, such use of central bank credit clearly undermined the NBR's main task, given that, most of the time, all these credits translated into a larger money supply and fuelled inflation.[20]

A worrying fact in recent years (even after 1997, when there was an announced policy change) is the amount of government debt financed by the Central Bank. In order to limit the increase in the money base, the government should run surpluses and eventually become a Central Bank creditor. Or, less excessive, it may run deficits, but the Central Bank should in no case contribute to financing this deficit.

[20] We say most of the time since during 1994-1996, when re-monetisation took place, a big rise in the monetary base did not entail an inflationary bout.

Likewise, the Central Bank should not lend excessively to commercial banks against treasury bonds as collateral, which could provide an indirect way of financing the budget deficit.

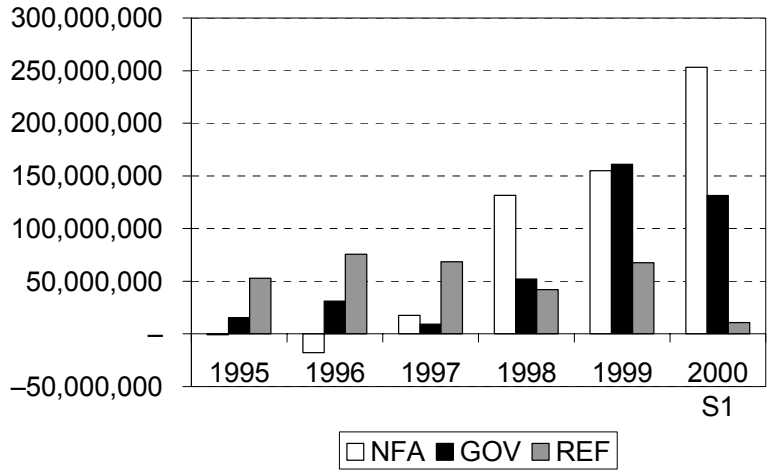

Figure 7. NBR: main asset positions (millions of lei). Source: NBR.

As an upshot, there is a dual challenge for the NBR, for monetary policy, in order to subdue inflation: how to control liquidity (base money) effectively and how to break powerful inflationary expectations after years of almost "programmed inflation".[21]

5.4. The exchange rate policy

Figure 8 shows the BNR foreign exchange reserves and the evolution of the real exchange rate since 1992. There was a general tendency of real appreciation of the leu, quite consistent with the Balassa-Samuelson paradigm (a note of caution should be kept in mind since rationing accompanied the functioning of the official forex market until early 1997). Since 1997 the exchange rate policy of the NBR may

be termed as managed flexible rates, given that the NBR has intervened in the foreign exchange market as a normal trader, while market forces determined the exchange rate. The 1999 episode puts forward the will of the central bank to oppose an excessive depreciation of the leu in the wake of the Russian crisis. By selling reserves, it may have limited the devaluation, but at the risk of a rising default risk due to a dramatic reduction in the stock of reserves. On the other hand, it can be argued that the NBR's intervention tried to avoid a free fall of the leu, which could have affected firms and banks through a balance sheet effect.

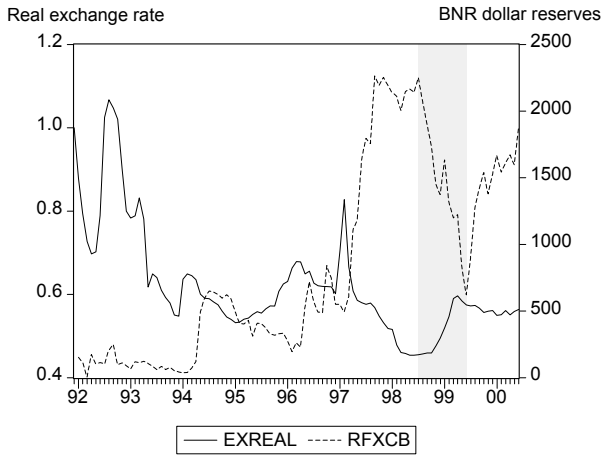

Figure 8. Real exchange rate and Dollar reserves of the NBR. Source NBR.

Let us first consider more in depth the factors that contributed steady devaluation of the leu. In Figure 9, it can be seen that the nominal exchange rate has evolved at the same pace with prices.

[21] According to NBR officials, a lingering core inflation of 10-12%, plus recurrent bouts of corrective inflation, led to this "inflation programming", with an ensuing accommodating stance of the Central Bank.

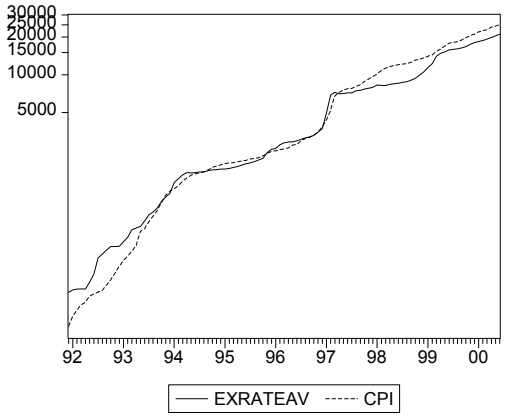

Figure 9. Nominal exchange rate and CPI Index (on a logarithmic scale).

Source: NBR

But has the leu depreciation been a major cause of price inflation or, as elementary monetarist logic would imply, the nominal devaluation only reflects, with a lag, the price increase? A Granger causality test tends to corroborate the former hypothesis, indicating that the exchange rate shocks lead the rise in prices. But the monetarist logic is not completely falsified. A similar test run this time on inflation and money growth rate shows that the money growth rate also leads the price increase (see Appendix A for the two tests).

Of course, a theory of inflation for economies with a distorted microeconomic structure and lack of basic institutions like the Southeast European ones is difficult to work out. Therefore we limit to a basic empirical approach and develop a VAR model, considering the interplay between changes in prices, changes in the money stock and changes in the nominal exchange rate (see Appendix A). We notice that the unemployment rate had no significant impact on these variables.

The response of the inflation rate to a shock in the money growth rate (DRM) and in the devaluation rate (DVN) is depicted in the figure below. As can be seen, a one standard deviation impulse entails significant inflation acceleration (up to 1.5%

per month inflation increase). The maximum impact is reached with a one-month lag for devaluation and a three-month lag for money.

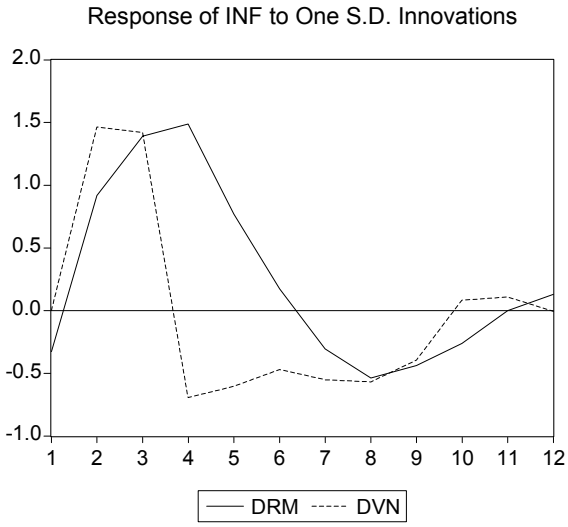

Figure 10. The impulse function.

Under a currency board, the scope for devaluation is almost nil, especially if the choice of the parity is rigorous. The behaviour of the money stock is less predictable. If the only way to acquire foreign reserves consists in running a trade surplus, the scope for a destabilising outcome is very limited; a sustained trade surplus implies more money, higher prices and less competitiveness, which has an adverse effect on exports. Furthermore, the government can no longer monetize the deficit. But additional reserves may be brought by massive capital inflows, related to direct investment but also to more speculative investment. Ever growing asset prices would entail capital gains and would call for further capital inflows, a typical bubble.

In this context a flexible exchange rate appears to be a sensible alternative. Under flexible rates, the central bank could run a tight monetary policy, thus the first inflation channel would be neutralised. Simultaneously, there will be some increase in interest rates and a currency appreciation, which will bring about an additional

favourable impact on moderating inflation. Of course, the risk is that the reduction in investment and exports be too strong.

One should also take into account the impact of such polices on output. With flexible exchange rates, and under a relatively high capital mobility, the fiscal policy is very ineffective[22], thus the government has to be prepared for a temporary slump. Under the fixed rate of the currency board, the government may recourse to fiscal policy, in the limits imposed on him by the sustainability of deficits. If deficits, as a proportion of GDP, are systematically above a certain threshold, the default risk may become very large, and consecutive increases in interest rates would affect firm and bank balance sheets, thus validating the bad expectations that give life to the default risk in the first place.

5. Conclusion and policy implications for Romania

Romania's macroeconomic performance can be termed so far as disappointing: the country has not been able to deliver steady growth, low unemployment and low inflation. Many factors are microeconomic and can be related to the slow progress with firm restructuring, privatisation and institution building (Daianu, 2000; Daianu and Vranceanu, 2000). In the text at hand we have taken these important constraints as premises to focus on the effectiveness of monetary and exchange rate mechanisms and policies.

The National Bank of Romania has seemed unable to carry out a consistent monetary policy, which should subdue inflation. Under various pressures (frequently of a political nature) it has systematically provided credit to commercial banks, which

[22] When referring to expansionary fiscal policy, freedom of *inflow* of capital suffices to get the ineffectiveness result.

in turn were obliged to support various firms and sectors; it has also taken over the bad debts of some troubled banks. Such quasi-fiscal operations have been a resilient feature of NBR's activity. As an upshot, the NBR has been constantly unable to control liquidity in the money market.

What should be done to improve the operation of monetary policy in order to bring down inflation resolutely and durably? A reassessment of the role and place of the NBR in the Romanian economic landscape is a first order necessity. The Central Bank should, at last, dispose of the tools and freedom to pursue an authentically independent monetary policy. Most important, its monetary policy would have to be unburdened of quasi-fiscal operations.[23] The Central Bank management should be insulated in his current tasks from any inference from the Parliament and the Government even if, quite normally, the NBR has to be fully accountable to the political representatives with respect to the achievement of the assigned objectives. More generally, the NBR should be able to decide unilaterally on the amount of repo financing of the banking sector and be freed from any obligation of indirect financing of the public deficit. The Bank should dispose of all the authority to manage short-term interest rates; whatever the assigned policy objective. In particular, it should rely essentially on this instrument for maintaining the exchange rate and should recourse to (sterilised) interventions only in exceptional cases (although it may be surmised that in a lowly monetised economy the recourse to interventions could be more frequent than in mature monetary economies).

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[23] The NBR acquired a new constitution in recent years and new rules for intervention in money and capital markets were established in late April 2000, but these regulatory steps have not stopped quasi-fiscal operations.

Monetary policy reform should be embedded into a coherent policy-mix to be set up simultaneously;[24] the latter would include incomes policy and low budget deficits, themselves grounded in a tight control and streamlining of public spending and the imposition of financial discipline on firms and households. More competition in the goods and labour markets as well as effective anti-trust measures, by curbing the market power of dominant blocks of suppliers, would also work against additional and unwarranted price increases.

What would be the suitable exchange rate mechanism to accompany the reform of the monetary policy?

- A flexible exchange rate would avoid the accumulation of nominal imbalances and would provide for the needed flexibility to adjust to adverse shocks. Whatever the objective of the central bank, low inflation or a stable exchange rate, a successful anti-inflation policy calls for a severe tightening of monetary policy today. Unfortunately, strong inflationary expectations are built in the price and wage formation process, and a shift in the monetary policy regime alone may not suffice to break the wage/price increase spiral. A suitable package of supporting measures (along the policy-mix framework suggested above) would help breaking inflationary expectations and subdue inflation. Yet, a too tight monetary policy may provoke a temporary slump that may be politically unacceptable today.

[24] The French 1986 reform of the monetary policy and mechanisms, presented in Appendix B, is illustrative for such a comprehensive reform.

- Should Romania go to the other extreme and adopt a currency board? A currency board would, by its internal structure, put an end to quasi-fiscal operations and would irrevocably fix the parity of the domestic currency. However, as it has been put forward in the theoretical sections, such an institution is not a "miracle" solution and its implementation would come with new risks. It may leave the country defenceless to adverse shocks that may hit the economy prior to EU integration. While it contains the government spending fervour by ruling out deficit monetization, it may favour excessive borrowing from abroad. This could lead to speculative lending and asset price inflation, with major financial risks. Even under a currency board, speculative attacks on the currency could occur, especially if the currency seems overvalued. In addition, potentially high real interest rates associated to a large foreign debt may strain fragile banks overwhelmingly.

- Should then Romania adopt a fixed rate with the euro? It could, provided that (a) the Central Bank has all the political autonomy and technical ability to pursue such a policy, (b) an appropriate (credible) level of the exchange rate is set, and, (c) in general, mutually consistent policies are adopted in the fiscal and structural realms. Of course, in the case of an adverse shock, the international community may not wish to impose on a small country the constraints of the fixed rate and may allow it to devalue. The procedure for negotiated devaluation could be laid down in an agreement with the IMF and the EU, and should be integrating part of the new exchange rate mechanism. Simultaneously, one may consider the

implementation of "soft" capital controls, essentially aimed at dissuading speculative attacks (Eichengreen, Tobin and Wyplosz, 1995; Krugman 2000). Finally, a public body should monitor the foreign debt of commercial banks and firms, in order to rule out excessive private borrowing in foreign exchange. Such prudential norms would limit the adverse impact of a devaluation, via a balance sheet effect (Krugman, 2000). Of course, by the moment when the economy takes off and inflation is cut to normal values, the fixed rate regime could be replaced by a flexible one (as did Poland in 2000).

Our analysis has put forward some relevant elements of an analysis of the monetary and exchange rate policies in Romanian transition economy. These are important foundations for achieving lasting and sustainable growth. However, many aspects have been omitted and should be addressed in further research. In particular, one should investigate more in depth the structural policies that would foster resource reallocation, increase the saving rate, promote efficient investment and increase firm competitiveness.

Appendix A. Main econometric tests

Granger causality tests:

Sample: 01:1997 - 06:2000

42 Observations

Null Hypothesis:	F-Statistic	Probability
DVN does not Granger Cause INF	16.6923	3.1E-08
INF does not Granger Cause DVN	1.63232	0.17395

Null Hypothesis:	F-Statistic	Probability
INF does not Granger Cause DRM	0.23236	0.96254
DRM does not Granger Cause INF	2.80301	0.02828

The VAR ESTIMATE

Sample: 01:1997- 06:2000

Included observations: 42. t-statistics in parentheses

	DRM	**INF**	**DVN**
DRM(-1)	-0.169794	0.084802	0.649596
	(-0.86912)	(0.83402)	(2.56881)
DRM(-2)	-0.069752	0.079402	0.273767
	(-0.33679)	(0.73663)	(1.02121)
DRM(-3)	0.115225	0.235165	0.442730
	(0.59939)	(2.35043)	(1.77922)
DRM(-4)	-0.190750	0.123543	-0.290346
	(-0.93539)	(1.16401)	(-1.09995)
INF(-1)	0.575101	0.100002	1.261053
	(1.82641)	(0.61021)	(3.09398)
INF(-2)	0.207911	0.462550	-0.441205
	(0.65816)	(2.81339)	(-1.07901)
INF(-3)	-0.140521	0.100192	-0.661012
	(-0.40730)	(0.55799)	(-1.48018)
INF(-4)	0.087317	-0.170868	-0.179694
	(0.51578)	(-1.93927)	(-0.82003)
DVN(-1)	0.150529	0.376497	0.604196
	(1.01645)	(4.88474)	(3.15192)
DVN(-2)	-0.455495	0.087319	-1.151847
	(-2.26868)	(0.83563)	(-4.43216)
DVN(-3)	-0.085675	-0.358260	0.324947
	(-0.35290)	(-2.83536)	(1.03404)
DVN(-4)	0.047590	-0.018773	0.372681
	(0.20111)	(-0.15243)	(1.21673)
C	3.251556	-0.335862	-0.441327
	(2.05917)	(-0.40867)	(-0.21592)
R-squared	0.262105	0.885881	0.671118
Adj. R-squar	-0.043231	0.838659	0.535029
F-statistic	0.858414	18.76003	4.931455
Log likelihood	-110.5587	-83.13069	-121.3967
Akaike AIC	5.883746	4.577652	6.399842

Appendix B. The French reform of monetary and exchange rate systems

In the seventies, the French central bank would automatically finance the state deficit, via an indirect mechanism, where commercial banks were allowed to borrow unlimited amounts of money from the central bank and buy treasury bonds (which in turn serve as collateral for further borrowing). In this context, the money supply automatically accommodated money demand, and inflation rose to very high levels.

In 1986 the French central bank was permitted to decide unilaterally on the amount of central money that will be allotted for a relatively short period (most often, two weeks). The total amount would be assigned to banks under a bidding procedure. Thus, the bargaining power in the money market shifted from the demand to the supply side.

This reinforcement of the instruments of the French central bank has been accompanied by the implementation of a *de facto* fixed exchange rate with the Deutsche mark, the so-called "strong franc" policy. This allowed to "import" the Bundesbank credibility but also to signal the commitment to a new policy target. Such a "nominal" anchor had a significant role in terminating inflationary expectations quite sharply.

However, after German reunification in 1989, German interest rates increased very much. In this context, the decision of the French government to stick to the "strong Franc" policy give rise to a lot of critics, which pointed at the unnecessary costs that the French economy would bear. Indeed, by 1993, the country faced the strongest crisis after the Second World War and the unemployment rate exceeded 12%. A devaluation would probably have damped the immediate cost, but at the expense of a long-term credibility loss.

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